

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for satisfying a single request from a client for a plurality of content components derived from content hosted by a plurality of distinct, separately accessible component servers for forming a personalized network page, comprising:

receiving a single request specifying multiple content components derived from content hosted by the plurality of distinct, separately accessible component servers for forming the personalized network page;

after receiving the single request, generating a plurality of information requests for the content as parallel worker threads spawned from a main execution thread;

sending the plurality of requests as parallel or rapid sequential worker threads so that each information request is sent to the component server hosting the content corresponding to the information request before receiving a response to any of the information requests, thereby permitting concurrent generation of the content components at the component servers;

forming the content components from the responses to the information requests including assembling the personalized network page; and

transmitting the personalized network page including the multiple content components to the client and

wherein the single request comprises a request for a personalized Web page; and

wherein the forming comprises assembling the personalized Web page from the content components; and

wherein the transmitting comprises sending the personalized Web page to the client.

2. (canceled).

3. (previously presented) The method of claim 1, further comprising:
instantiating a timer after the step of sending each information request and before the step of forming the personalized web page; and
if no response is received from one of the component servers prior to a timeout period of the timer, performing the steps of
immediately establishing the response from that component server as a null value,
and
carrying out the steps of forming the personalized network page and transmitting the personalized network page to the client without waiting for that response.
4. (previously presented) The method of claim 1, wherein the component servers generate the responses in different data formats, and the method further comprises converting the responses to a common data format.
5. (original) The method of claim 4, wherein the common data format is based on a markup language.
6. (original) The method of claim 4, wherein the converting step is performed at the respective component servers.
7. (original) The method of claim 4, wherein the converting step is performed at a main server, the main server also receiving the single request from the user and transmitting the personalized network page to the client.
8. (original) The method of claim 7, wherein the main server is a corporate portal server.
9. (original) The method of claim 7, wherein the main server is an Internet portal server.

10. (original) The method of claim 7, wherein each of the main server and the component servers are physically separate, and wherein the information requests and responses are transmitted according to a standard network protocol.

11. (original) The method of claim 10, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

12. (previously presented) The method of claim 1, wherein the component servers comprise an email server, an enterprise resource planning server, or a customer relationship management server, or combinations thereof.

13. (original) The method of claim 3, wherein the information requests are transmitted according to a standard network protocol.

14. (original) The method of claim 13, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

15. (original) The method of claim 1, further comprising:
generating a state machine to represent the progress of each information request; and
recursively processing the state machines to advance the progress of each information request.

16. (currently amended) Computer-readable media embodying instructions executable by a computer to perform a method for satisfying a single request from a client for a plurality of content components derived from content hosted by a plurality of distinct, separately accessible component servers for forming a personalized network page, the method comprising:

receiving a single request specifying multiple content components derived from content hosted by the plurality of distinct, separately accessible component servers for forming the personalized network page;

after receiving the single request, generating a plurality of information requests for the content as parallel worker threads spawned from a main execution thread;

sending the plurality of requests as parallel or rapid sequential worker threads so that each information request is sent to the component server hosting the content corresponding to the information request before receiving a response to any of the information requests, thereby permitting concurrent generation of the content components at the component servers;

forming the content components from the responses to the information requests including assembling the personalized network page; and

transmitting the personalized network page including the multiple content components to the client and

wherein the single request comprises a request for a personalized Web page; and

wherein the forming comprises assembling the personalized Web page from the content components; and

wherein the transmitting comprises sending the personalized Web page to the client.

17. (canceled).

18. (previously presented) The media of claim 16, wherein the method further comprises:

instantiating a timer after the step of sending each information request and before the step of forming the personalized web page; and

if no response is received from one of the component servers prior to a timeout period of the timer, performing the steps of

immediately establishing the response from that component server as a null value,

and

carrying out the steps of forming the personalized network page and transmitting the personalized network page to the client without waiting for that response.

19. (previously presented) The media of claim 16, wherein the component servers generate the responses in different data formats, wherein the method further comprises: converting the responses to a common data format.

20. (original) The media of claim 19, wherein the common data format is based on a markup language.

21. (original) The media of claim 19, wherein the converting step is performed at the respective component servers.

22. (original) The media of claim 19, wherein the converting step is performed at a main server, the main server also receiving the single request from the user and transmitting the personalized network page to the client.

23. (original) The media of claim 22, wherein the main server is a corporate portal server.

24. (original) The media of claim 22, wherein the main server is an Internet portal server.

25. (original) The media of claim 22, wherein each of the main server and the component servers are physically separate, and wherein the information requests and responses are transmitted according to a standard network protocol.

26. (original) The media of claim 25, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

27. (previously presented) The media of claim 16, wherein the component servers comprise an email server, an enterprise resource planning server, or a customer relationship management server, or combinations thereof.

28. (original) The media of claim 18, wherein the information requests are transmitted according to a standard network protocol.

29. (original) The media of claim 28, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

30. (original) The media of claim 16, wherein the method further comprises:
generating a state machine to represent the progress of each information request; and
recursively processing the state machines to advance the progress of each information request.

31. (currently amended) An apparatus for satisfying a single request from a client for a plurality of content components derived from content hosted by a plurality of distinct, separately accessible component servers for forming a personalized network page, comprising:

means for receiving a single request specifying multiple content components derived from content hosted by the plurality of distinct, separately accessible component servers for forming the personalized network page;

means for, after receiving the single request, generating a plurality of information requests for the content as parallel worker threads spawned from a main execution thread;

means for sending the plurality of requests as parallel or rapid sequential worker threads so that each information request is sent to the component server hosting the content

corresponding to the information request before receiving a response to any of the information requests, thereby permitting concurrent generation of the content components at the component servers;

means for forming the content components from the responses to the information requests including assembling the personalized network page; and

means for transmitting the personalized network page including the multiple content components to the client and

wherein the single request comprises a request for a personalized Web page; and

wherein the forming comprises assembling the personalized Web page from the content components; and

wherein the transmitting comprises sending the personalized Web page to the client.

32. (canceled)

33. (previously presented) The apparatus of claim 31, further comprising:

means for instantiating a timer after the step of sending each information request and before the step of forming the personalized web page; and

means for, if no response is received from one of the component servers prior to a timeout period of the timer, performing the steps of

immediately establishing the response from that component server as a null value,

and

carrying out the steps of forming the personalized network page and transmitting the personalized network page to the client without waiting for that response.

34. (previously presented) The apparatus of claim 31, wherein the component servers generate the responses in different data formats, wherein the apparatus further comprises:

means for converting the responses to a common data format.

35. (original) The apparatus of claim 34, wherein the common data format is based on a markup language.

36. (original) The apparatus of claim 34, wherein the means for converting is part of the respective component servers.

37. (original) The apparatus of claim 34, wherein the means for converting is part of a main server, the main server also receiving the single request from the user and transmitting the personalized network page to the client.

38. (original) The apparatus of claim 37, wherein the main server is a corporate portal server.

39. (original) The apparatus of claim 37, wherein the main server is an Internet portal server.

40. (original) The apparatus of claim 37, wherein each of the main server and the component servers are physically separate, and wherein the information requests and responses are transmitted according to a standard network protocol.

41. (original) The apparatus of claim 40, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

42. (previously presented) The apparatus of claim 41, wherein the component servers comprise an email server, an enterprise resource planning server, or a customer relationship management server, or combinations thereof.

43. (original) The apparatus of claim 33, wherein the information requests are transmitted according to a standard network protocol.

44. (original) The apparatus of claim 43, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

45. (original) The apparatus of claim 31, further comprising:
means for generating a state machine to represent the progress of each information request; and
means for recursively processing the state machines to advance the progress of each information request.

46. (currently amended) An apparatus for satisfying a single request from a client for a plurality of content components derived from content hosted by a plurality of distinct, separately accessible component servers for forming a personalized network page, the apparatus comprising a processor configured to perform a method comprising:

receiving a single request specifying multiple content components derived from content hosted by the plurality of distinct, separately accessible component servers for forming the personalized network page;

after receiving the single request, generating a plurality of information requests for the content as parallel worker threads spawned from a main execution thread;

sending the plurality of requests as parallel or rapid sequential worker threads so that each information request is sent to the component server hosting the content corresponding to the information request before receiving a response to any of the information requests, thereby permitting concurrent generation of the content components at the component servers;

forming the content components from the responses to the information requests including assembling the personalized network page; and

transmitting the personalized network page including the multiple content components to the client and

wherein the single request comprises a request for a personalized Web page; and

wherein the forming comprises assembling the personalized Web page from the content components; and

wherein the transmitting comprises sending the personalized Web page to the client.

47. (canceled).

48. (previously presented) The apparatus of claim 46, wherein the method further comprises:

instantiating a timer after the step of sending each information request and before the step of forming the personalized web page; and

if no response is received from one of the component servers prior to a timeout period of the timer, performing the steps of

immediately establishing the response from that component server as a null value,

and

carrying out the forming of the personalized network page and transmitting the personalized network page to the client without waiting for that response.

49. (previously presented) The apparatus of claim 46, wherein the component servers generate the responses in different data formats, wherein the method further comprises:

converting the responses to a common data format.

50. (original) The apparatus of claim 49, wherein the common data format is based on a markup language.

51. (previously presented) The apparatus of claim 49, wherein the converting is performed at the respective component servers.

52. (previously presented) The apparatus of claim 49, wherein the converting is performed at a main server, the main server also receiving the single request from the user and transmitting the personalized network page to the client.

53. (previously presented) The apparatus of claim 52, wherein the main server is a corporate portal server.

54. (previously presented) The apparatus of claim 52, wherein the main server is an Internet portal server.

55. (previously presented) The apparatus of claim 52, wherein each of the main server and the component servers are physically separate, and wherein the information requests and responses are transmitted according to a standard network protocol.

56. (original) The apparatus of claim 55, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

57. (previously presented) The apparatus of claim 56, wherein the component servers comprise an email server, an enterprise resource planning server, or a customer relationship management server, or combinations thereof.

58. (original) The apparatus of claim 48, wherein the information requests are transmitted according to a standard network protocol.

59. (original) The apparatus of claim 58, wherein the standard network protocol is selected from the group consisting of HTTP, HTTPS, WAP, and FTP.

60. (previously presented) The apparatus of claim 46, wherein the method further comprises:
generating a state machine to represent the progress of each information request; and
recursively processing the state machines to advance the progress of each information request.

61. (previously presented) The method of claim 1, further comprising uniquely identifying a user who wishes to view the personalized network page regardless of which access terminal is being used.

62. (previously presented) The method of claim 1, further comprising caching one or more of the content components for retrieval without contacting the component server in a future request.

63. (previously presented) The method of claim 62, wherein the caching comprises indexing at least one of the content components according to one or more user preferences.

64. (previously presented) The method of claim 1, further comprising retrieving one or more previously cached content components for including in the personalized network page without contacting the corresponding component server.

65. (previously presented) The method of claim 64, wherein at least one of the cached content components was indexed according to one or more user preferences, and wherein the retrieving comprises calling the at least one cached content component according to the indexing.

66. (previously presented) The method of claim 1, further comprising providing a form allowing a user to select the components from a library of components.

67. (previously presented) The media of claim 16, the method further comprising uniquely identifying a user who wishes to view the personalized network page regardless of which access terminal is being used.

68. (previously presented) The media of claim 16, the method further comprising caching one or more of the content components for retrieval without contacting the component server in a future request.

69. (previously presented) The media of claim 68, wherein the caching comprises indexing at least one of the content components according to one or more user preferences.

70. (previously presented) The media of claim 16, the method further comprising retrieving one or more previously cached content components for including in the personalized network page without contacting the corresponding component server.

71. (previously presented) The media of claim 70, wherein at least one of the cached content components was indexed according to one or more user preferences, and wherein the retrieving comprises calling the at least one cached content component according to the indexing.

72. (previously presented) The media of claim 16, the method further comprising providing a form allowing a user to select the components from a library of components.

73. (previously presented) The apparatus of claim 31, the method further comprising uniquely identifying the user who wishes to view the personalized network page regardless of which access terminal is being used.

74. (previously presented) The apparatus of claim 31, the method further comprising caching one or more of the content components for retrieval without contacting the component server in a future request.

75. (previously presented) The apparatus of claim 74, wherein the caching comprises indexing at least one of the content components according to one or more user preferences.

76. (previously presented) The apparatus of claim 31, the method further comprising retrieving one or more previously cached content components for including in the personalized network page without contacting the corresponding component server.

77. (previously presented) The apparatus of claim 76, wherein at least one of the cached content components was indexed according to one or more user preferences, and wherein the retrieving comprises calling the at least one cached content component according to the indexing.

78. (previously presented) The apparatus of claim 31, the method further comprising providing a form allowing a user to select the components from a library of components.

79. (previously presented) The apparatus of claim 46, the method further comprising uniquely identifying the user who wishes to view the personalized network page regardless of which access terminal is being used.

80. (previously presented) The apparatus of claim 46, the method further comprising caching one or more of the content components for retrieval without contacting the component server in a future request.

81. (previously presented) The apparatus of claim 80, wherein the caching comprises indexing at least one of the content components according to one or more user preferences.

82. (previously presented) The apparatus of claim 46, the method further comprising retrieving one or more previously cached content components for including in the personalized network page without contacting the corresponding component server.

83. (previously presented) The apparatus of claim 82, wherein at least one of the cached content components was indexed according to one or more user preferences, and wherein the retrieving comprises calling the at least one cached content component according to the indexing.

84. (previously presented) The apparatus of claim 46, the method further comprising providing a form allowing a user to select the components from a library of components.